Mammary invasive ductal adenocarcinoma and vulvar invasive keratinizing squamous cell carcinoma in a woman with disseminated discoid lupus erythematosus (DDLE)

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Abstract

A case of metachronous presentation of two malignancies, invasive mammary ductal adenocarcinoma and later invasive keratinizing squamous cell vulvar carcinoma, complicating a 20 years long course of disseminated discoid lupus erythematosus is described. The authors underline a potential role of long-standing immunotherapy as a factor responsible for inducing secondary neoplasia.

INTRODUCTION

Lupus erythematosus (LE) typically occurs in two distinct forms – systemic (SLE) and cutaneous, which is further divided into variants: discoid lupus erythematosus (DLE) and, more generalized, disseminated discoid lupus erythematosus (DDLE). In the disseminated form, skin lesions usually occur on face, trunk and extremities. Rarely, in the course of DDLE, lesions may involve female external genital organs, including vulva (Bilenchi *et al.* 2004). Cases of invasive squamous cell carcinoma associated with underlying LE have been quite frequently described (Caruso *et al.*1987; Sulica *et al.* 1988; Dabski *et al.* 1986). There are, however, only few reports on squamous invasive vulvar carcinoma complicating long-standing course of DDLE (Samaratunga *et al.* 1991; Piura *et al.* 2005; Hoffmann-Marinot 1966). There is no known description of metachronic presentation of two neoplasms arising in a patient affected by LE. In this report we describe for the first time a case of metachronous mammary invasive ducal adenocarcinoma and vulvar invasive keratinizing squamous cell carcinoma occurring in a woman with a long-standing history of cutaneous lupus erythematosus.

CASE DESCRIPTION

In May 2006 a 51-year old Caucasian woman with established diagnosis of invasive squamous vulvar carcinoma was referred to the Department and Chair of Obstetrics and Gynecology in Tychy, Medical University of Silesia for surgical treatment – total vulvectomy with femoro-inguinal lymphadenectomy. The patient reported 6 months' history of exophytic skin tumor in the vulvar area and a long-standing history of LE. At presentation, in the left labial area there was a partially ulcer-

CASE REPORT

ated papillomatous skin tumor, 7 by 5 cm wide, with involvement of adjacent vagina wall, as well as skin in the inguinal and femoral area (Figure 1).

Earlier that month, the patient had tumor biopsy performed at the Gliwice Branch of The Comprehensive Cancer Center, Maria Skłodowska-Curie Memorial Institute (tissue sample Nº 247141, maximum sample diameter of 1.5 cm) with subsequent diagnosis of *Carcinoma planoepitheliale keratodes G-1*. Further microscopic examination at the Department of Pathology, Regional Hospital Nº. 1 in Tychy revealed a more detailed diagnosis of *Vulvar invasive keratinizing squamous cell carcinoma. Grade 1. Depth of stromal invasion – 0.2 cm. No capillary-lymphatic space invasion*. Due to a long-standing treatment for LE a dermatologist's consultation was obtained which stated: "*As of May 2006, the patient has 20 years' history of DDLE. At the present, there are skin lesions consistent with discoid LE present on face, left breast, trunk and around external genitalia*" (Figure 2).

The patient had a history of invasive ductal adenocarcinoma of the right breast diagnosed in 2001. She subsequently underwent right mastectomy (according to Patey technique) with lymphadenectomy. Microscopic evaluation of tissue samples established diagnosis of invasive ducal carcinoma (*Carcinoma ductale infiltrans, grade III [Bloom], tumor diameter: 3.2 cm*). The resected 24 axillary lymph nodes revealed no metastases. After surgery the patient received adjuvant chemotherapy. The woman had a history of one vaginal birth at term.The infant was diagnosed with neonatal lupus erythematosus (NLE) and died at the age of 1 month; however, there were no medical records available that could confirm the cause of death. Following admission to the hospital, in June 2006, the patient underwent radical vulvectomy (as described by Way) with partial resection of vagina, involved skin and inguinal lymph nodes. Intraoperative tissue specimen (histopathology samples Nº 255679-89) consisted of three parts, viz. a 13 by 18 cm tissue block (containing labia maiora and minora, part of vagina wall and skin from perineum and femoral area), inguinal skin patch 12 by 13 cm wide and another inguinal skin fragment 9.5 by 3 cm wide. Additionally, the resected inguinal and femoral lymph nodes were sent for microscopic evaluation (samples Nº 255627-662). The tissue specimens were fixed in 10% buffered formaldehyde and underwent serial sectioning at 0.5 cm interval. Then, tissue samples were embedded in hard paraffin blocks and stained with Hematoxylin and Eosin method. On gross examination, there was a tumor (measuring 7.5 cm by 5.5 cm by 0.7 cm) in the left labial area with involvement of 1.0 cm wide patch of adjacent inguinal and femoral skin. Also, a 0.5 cm wide strip of vagina wall was involved. Microscopic studies of the tumor revealed features of invasive keratinizing squamous cell carcinoma (Grade 1). Approximately 90% of the tumor mass showed exophytic growth. However, there were also 0.2–0.4 cm wide areas of tumor invasion with 0.2–0.3 cm depth of stromal infiltration. Surgical margins were negative but showed features of lichen sclerosus and atrophicans that was also present in the two skin fragments from inguinal areas. All of the resected lymph nodes (5 inguinal and 7 femoral) were free of metastasis. The tumor was stage T3N0M0 according to the FIGO. The postoperative period was uneventful and the patient was referred to the outpatient department of the Gliwice Branch of The Comprehensive Cancer Center, Maria Skłodowska-Curie Memorial Institute for further follow-up.

DISCUSION

This is the first known description of metachronous presentation (in a period of six years) of two malignancies complicating a 20 years long course of cutaneous lupus erythematosus. Many authors point out the fact that long-lasting therapy with immunosuppresants may lead to development of carcinoma, which is believed

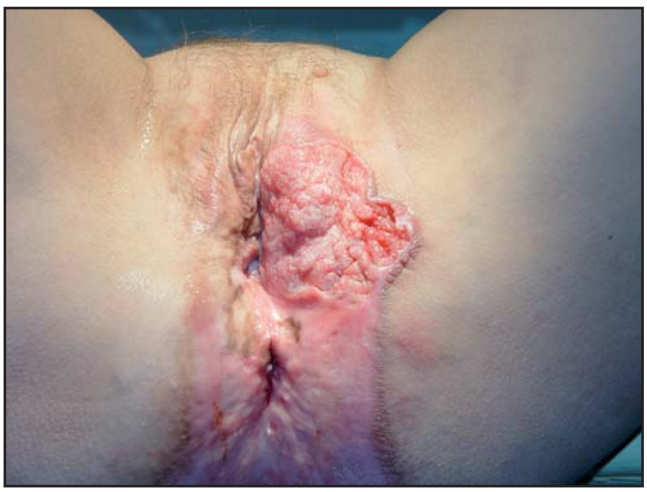

Fig. 1. Tumor in the left labial area and DDLE changes.

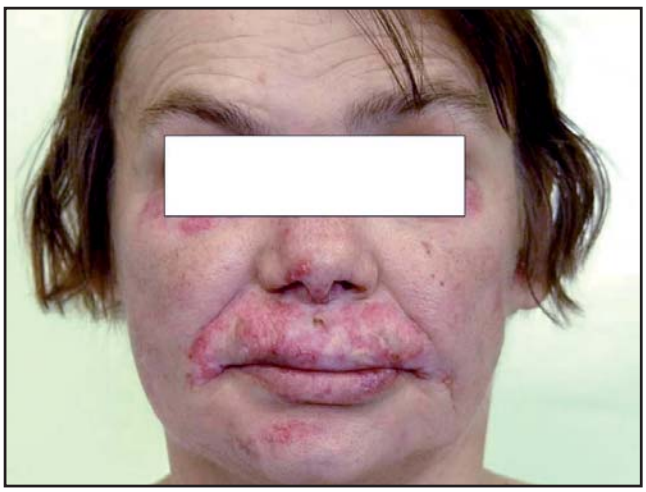

Fig. 2. DDLE – Changes on patien's face.

to result from diminished function of the immune system (Tripp 1967; Hemminki *et al.* 2003; Leigt *et al.* 1995). The described patient received for many years immunospuppresive agents as a treatment for lupus erythematosus. However, the chemotherapy following excision of the breast tumor might also play some role in development of the vulvar squamous carcinoma. Also, it must be noted that symptoms of the patient's underlying disease occurred in her deceased infant (in the form of NLE). Some researchers (Vonderheid *et al.* 1976; Michel *et al*. 2001) suggest hereditary nature of lupus erythematosus. Unfortunately, lack of medical records renders any definite conclusion pertaining the infant's condition, immediate cause of death and possible hereditary background impossible.

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